

Claims

[0067] What is claimed is:

- 1 1. A computer-implemented user interface configuration method,
2 comprising:
3 detecting a user proficiency level with respect to a user interface, based on
4 user behavior with respect to the user interface; and
5 automatically configuring the user interface responsive to the detected
6 proficiency level.
- 1 2. The method of claim 1, wherein automatically configuring the user
2 interface comprises:
3 selecting at least one configuration option from a plurality of
4 configuration options.
- 1 3. The method of claim 1, wherein automatically configuring the user
2 interface comprises at least one selected from the group consisting of:
3 enabling access to a user interface element;
4 disabling access to a user interface element; and
5 changing an appearance of a user interface element.

1 4. The method of claim 1, wherein automatically configuring the user
2 interface comprises at least one selected from the group consisting of:

- 3 enabling access to a command;
- 4 disabling access to a command;
- 5 changing an appearance of a command;
- 6 enabling access to a menu;
- 7 disabling access to a menu;
- 8 changing an appearance of a menu;
- 9 enabling access to a button;
- 10 disabling access to a button;
- 11 changing an appearance of a button;
- 12 enabling access to a shortcut;
- 13 disabling access to a shortcut; and
- 14 changing an appearance of a command.

1 5. The method of claim 1, wherein automatically configuring the user
2 interface comprises configuring an online help system.

1 6. The method of claim 5, wherein configuring the online help system
2 comprises selecting a help text level responsive to the detected proficiency level.

1 7. The method of claim 1, wherein automatically configuring the user
2 interface comprises outputting an instructional tip.

1 8. The method of claim 1, wherein detecting a user proficiency level
2 comprises identifying a user interface component in which the user proficiency
3 level is low, and wherein the instructional tip relates to the identified user
4 interface component.

1 9. The method of claim 1, wherein automatically configuring the user
2 interface comprises at least one selected from the group consisting of:
3 activating an on-screen help feature; and
4 deactivating an on-screen help feature.

1 10. The method of claim 1, wherein automatically configuring the user
2 interface comprises at least one selected from the group consisting of:
3 activating on-screen help tips; and
4 deactivating on-screen help tips.

1 11. The method of claim 1, further comprising:
2 outputting a notification of a change to user interface configuration.

1 12. The method of claim 1, further comprising:

2 outputting a notification of at least one newly enabled user interface
3 feature.

1 13. The method of claim 1, wherein detecting the user proficiency level
2 and automatically configuring the user interface are performed responsive to a
3 trigger event.

1 14. The method of claim 13, wherein the trigger event comprises user
2 input requesting user interface configuration.

1 15. The method of claim 13, wherein the trigger event comprises
2 application startup.

1 16. The method of claim 13, wherein the trigger event comprises system
2 startup.

1 17. The method of claim 13, wherein the trigger event comprises a change
2 in user behavior with respect to the user interface.

1 18. The method of claim 13, wherein the trigger event comprises user
2 logon.

1 19. The method of claim 1, wherein detecting the user proficiency level
2 and automatically configuring the user interface are performed periodically.

1 20. The method of claim 1, wherein detecting the user proficiency level
2 comprises reading a stored user proficiency level derived from at least one
3 marker.

1 21. The method of claim 20, wherein the marker indicates historical usage
2 of the user interface.

1 22. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting whether a user interface element has been used.

1 23. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting whether a user interface element has been used a number of
3 times exceeding a predetermined threshold.

1 24. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting a total amount of time spent by a user using an application.

1 25. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting how many applications are open concurrently.

1 26. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting a historical average number of concurrently open
3 applications.

1 27. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting a keyboard shortcut usage level.

1 28. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting how many windows are open concurrently.

1 29. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting a historical average number of concurrently open windows.

1 30. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting a user-specified preference indicating a proficiency level.

1 31. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting web page visitation patterns.

1 32. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting historical usage of secure web pages.

1 33. The method of claim 1, wherein detecting the user proficiency level
2 comprises detecting historical usage of web pages having active content.

1 34. The method of claim 1, wherein:

2 detecting the user proficiency level comprises detecting the user
3 proficiency level with respect to a user interface component less
4 than the entire user interface; and
5 automatically configuring the user interface comprises automatically
6 configuring the user interface component without altering the
7 configuration of the remainder of the user interface.

1 35. The method of claim 1, wherein:

2 detecting the user proficiency level comprises detecting the user
3 proficiency level with respect to an application; and
4 automatically configuring the user interface comprises automatically
5 configuring the user interface for the application.

1 36. The method of claim 1, further comprising:

2 responsive to user behavior with respect to the user interface, storing a
3 marker indicating a user proficiency level;
4 and wherein detecting the user proficiency level comprises reading the
5 stored marker.

1 37. The method of claim 36, wherein:

2 storing the marker is performed by a first application; and
3 reading the stored marker is performed by a background process.

1 38. The method of claim 36, wherein:
2 storing the marker is performed by a first application; and
3 reading the stored marker is performed by a second application different
4 from the first application.

1 39. The method of claim 36, wherein:
2 storing the marker is performed by an operating system; and
3 reading the stored marker is performed by the operating system.

1 40. The method of claim 39, wherein:
2 automatically configuring the user interface comprises modifying user
3 interface elements that are supplied to a plurality of
4 applications.

1 41. The method of claim 36, wherein:
2 storing the marker is performed by an operating system; and
3 reading the stored marker is performed by an application.

1 42. The method of claim 1, wherein detecting the user proficiency level
2 comprises retrieving a plurality of stored markers and aggregating the retrieved
3 markers to derive a proficiency level.

1 43. The method of claim 1, further comprising:

2 responsive to user behavior with respect to the user interface, storing a
3 plurality of markers;
4 and wherein detecting the user proficiency level comprises retrieving at
5 least a subset of the stored markers and aggregating the
6 retrieved markers to derive a proficiency level.

1 44. The method of claim 1, further comprising:
2 accepting user input overriding the user interface configuration and
3 specifying a desired configuration; and
4 responsive to the user input, configuring the user interface according to
5 the desired configuration.
6

1 45. The method of claim 1, wherein:
2 detecting a user proficiency level with respect to a user interface
3 comprises detecting a user proficiency level with respect to a
4 user interface of a web-resident application being run from a
5 client machine; and
6 automatically configuring the user interface comprises automatically
7 configuring at least one user interface element for the web-
8 resident application.
9

1 46. A computer program product for configuring a user interface,
2 comprising:
3 a computer-readable medium; and
4 computer program code, encoded on the medium, for:
5 detecting a user proficiency level with respect to a user interface,
6 based on user behavior with respect to the user interface;
7 and
8 automatically configuring the user interface responsive to the
9 detected proficiency level.

1 47. The computer program product of claim 46, wherein the computer
2 program code for automatically configuring the user interface comprises
3 computer program code for:
4 selecting at least one configuration option from a plurality of
5 configuration options.

1 48. The computer program product of claim 46, wherein the computer
2 program code for automatically configuring the user interface comprises at least
3 one selected from the group consisting of:
4 computer program code for enabling access to a user interface element;
5 computer program code for disabling access to a user interface element;
6 and

7 computer program code for changing an appearance of a user interface
8 element.

1 49. The computer program product of claim 46, wherein the computer
2 program code for automatically configuring the user interface comprises at least
3 one selected from the group consisting of:

4 computer program code for enabling access to a command;
5 computer program code for disabling access to a command;
6 computer program code for changing an appearance of a command;
7 computer program code for enabling access to a menu;
8 computer program code for disabling access to a menu;
9 computer program code for changing an appearance of a menu;
10 computer program code for enabling access to a button;
11 computer program code for disabling access to a button;
12 computer program code for changing an appearance of a button;
13 computer program code for enabling access to a shortcut;
14 computer program code for disabling access to a shortcut; and
15 computer program code for changing an appearance of a command.

1 50. The computer program product of claim 46, wherein the computer
2 program code for automatically configuring the user interface comprises
3 computer program code for configuring an online help system.

1 51. The computer program product of claim 46, wherein the computer
2 program code for detecting the user proficiency level and automatically
3 configuring the user interface comprises computer program code for performing
4 the detecting and configuring steps responsive to a trigger event.

1 52. The computer program product of claim 46, wherein the computer
2 program code for detecting the user proficiency level and automatically
3 configuring the user interface comprises computer program code for performing
4 the detecting and configuring steps periodically.

1 53. The computer program product of claim 46, wherein the computer
2 program code for detecting the user proficiency level comprises computer
3 program code for reading a stored user proficiency level derived from at least
4 one marker.

1 54. The computer program product of claim 46, wherein:
2 the computer program code for detecting the user proficiency level
3 comprises computer program code for detecting the user
4 proficiency level with respect to a user interface component less
5 than the entire user interface; and
6 the computer program code for automatically configuring the user
7 interface comprises computer program code for automatically

8 configuring the user interface component without altering the
9 configuration of the remainder of the user interface.

1 55. The computer program product of claim 46, wherein:
2 the computer program code for detecting the user proficiency level
3 comprises computer program code for detecting the user
4 proficiency level with respect to an application; and
5 the computer program code for automatically configuring the user
6 interface comprises computer program code for automatically
7 configuring the user interface for the application.

1 56. The computer program product of claim 46, further comprising:
2 computer program code for, responsive to user behavior with respect to
3 the user interface, storing a marker indicating a user proficiency
4 level;
5 and wherein the computer program code for detecting the user
6 proficiency level comprises computer program code for reading
7 the stored marker.

1 57. The computer program product of claim 46, wherein the computer
2 program code for detecting the user proficiency level comprises computer
3 program code for retrieving a plurality of stored markers and aggregating the
4 retrieved markers to derive a proficiency level.

1 58. The computer program product of claim 46, further comprising:
2 computer program code for, responsive to user behavior with respect to
3 the user interface, storing a plurality of markers;
4 and wherein the computer program code for detecting the user
5 proficiency level comprises computer program code for
6 retrieving at least a subset of the stored markers and
7 aggregating the retrieved markers to derive a proficiency level.

1 59. The computer program product of claim 46, wherein:
2 the computer program code for detecting a user proficiency level with
3 respect to a user interface comprises computer program code for
4 detecting a user proficiency level with respect to a user interface
5 of a web-resident application being run from a client machine;
6 and
7 the computer program code for automatically configuring the user
8 interface comprises computer program code for automatically
9 configuring at least one user interface element for the web-
10 resident application.

1 60. A system for configuring a user interface, comprising:

2 means for detecting a user proficiency level with respect to a user
3 interface, based on user behavior with respect to the user
4 interface; and
5 means for automatically configuring the user interface responsive to the
6 detected proficiency level.

1 61. A system for configuring a user interface, comprising:
2 a user proficiency level detector, for detecting a user proficiency level with
3 respect to a user interface, based on user behavior with respect
4 to the user interface; and
5 a user interface configuration module, coupled to the user proficiency
6 level detector, for automatically configuring the user interface
7 responsive to the detected proficiency level.

1 62. The system of claim 61, wherein the user interface configuration
2 module selects at least one configuration option from a plurality of configuration
3 options.

1 63. The system of claim 61, wherein the user interface configuration
2 module performs at least one selected from the group consisting of:
3 enabling access to a user interface element;
4 disabling access to a user interface element; and
5 changing an appearance of a user interface element.

1 64. The system of claim 61, wherein the user interface configuration
2 module performs at least one selected from the group consisting of:
3 enabling access to a command;
4 disabling access to a command;
5 changing an appearance of a command;
6 enabling access to a menu;
7 disabling access to a menu;
8 changing an appearance of a menu;
9 enabling access to a button;
10 disabling access to a button;
11 changing an appearance of a button;
12 enabling access to a shortcut;
13 disabling access to a shortcut; and
14 changing an appearance of a command.

1 65. The system of claim 61, further comprising an online help system,
2 wherein the user interface configuration module configures the online help
3 system.

1 66. The system of claim 61, wherein the user proficiency level detector
2 and the user interface configuration module operate responsive to a trigger
3 event.

1 67. The system of claim 61, wherein the user proficiency level detector
2 and the user interface configuration module operate periodically.

1 68. The system of claim 61, wherein the user proficiency level detector
2 reads a stored user proficiency level derived from at least one marker.

1 69. The system of claim 61, wherein:
2 the user proficiency level detector detects the user proficiency level with
3 respect to a user interface component less than the entire user
4 interface; and
5 the user interface configuration module automatically configures the user
6 interface component without altering the configuration of the
7 remainder of the user interface.

1 70. The system of claim 61, wherein:
2 the user proficiency level detector detects the user proficiency level with
3 respect to an application; and
4 the user interface configuration module automatically configures the user
5 interface for the application.

1 71. The system of claim 61, further comprising:

2 a marker storage device, for, responsive to user behavior with respect to
3 the user interface, storing a marker indicating a user proficiency
4 level;
5 wherein the user proficiency level detector reads the stored marker from
6 the marker storage device.

1 72. The system of claim 61, wherein the user proficiency level detector
2 retrieves a plurality of stored markers and aggregates the retrieved markers to
3 derive a proficiency level.

1 73. The system of claim 61, further comprising:
2 a marker storage device, for, responsive to user behavior with respect to
3 the user interface, storing a plurality of markers;
4 wherein the user proficiency level detector retrieves at least a subset of the
5 stored markers and aggregates the retrieved markers to derive a
6 proficiency level.

1 74. The system of claim 61, wherein:
2 the user proficiency level detector detects a user proficiency level with
3 respect to a user interface of a web-resident application being
4 run from a client machine; and
5 the user interface configuration module automatically configures at least
6 one user interface element for the web-resident application.